AMENDMENT NO. 1 AUGUST 2022

TO

IS 11587 : 1986 SPECIFICATION FOR STRUCTURAL WEATHER RESISTANT STEELS

(*Page* 3, *clause* **0.2**) — Insert the following sentence at the end:

'The Indian Standards referred in this standard are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards.'

(*Page* 3, *clause* **1.1,** *line* 2) — Insert 'sheets,' between 'plates' and 'strips'.

(*Page* 5, *clause* **5.1,** *Table* 1) — Substitute the following for the existing table:

Table 1 Chemical Composition (*Continued*)

(*Clause* 5.1)

Grade	**Constituents, Percent**								
	C	Si	Mn	P	S	Cr	Ni	Cu	V
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
WR-Fe 480A	0.12 *Max*	0.25-0.75	0.60 *Max*	0.070-0.150	0.050 *Max*	0.30-1.25	0.65 *Max*	0.25-0.55	-
WR-Fe 480B	0.10-0.19	0.15-0.50	0.90-1.25	0.040 *Max*	0.050 *Max*	0.40-0.70	-	0.25-0.40	0.02-0.10

Price Group 3

Table 1 Chemical Composition (*Concluded*)

(*Clause* 5.1)

Grade	**Constituents, Percent**								
	C	Si	Mn	P	S	Cr	Ni	Cu	V
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
WR-Fe 490H	0.12 *Max*	0.20-0.75	0.60 *Max* (*see* Note 5)	0.070-0.150	0.035 *Max*	0.30-1.25	0.65 *Max*	0.25-0.55	-
WR-Fe 490C									
(*see* Note 4)									
WR-Fe 500	0.17 *Max*	0.40 *Max*	1.00 *Max*	0.070-0.100	0.050 *Max*	0.70-1.00	-	0.25-0.55	0.10 *Max*

NOTES

1 Chemical composition for thicknesses over 16 mm is subject to agreement between the manufacturer and the purchaser.

2 Nickel content up to 0.65 *Max* may be added at the manufacturer’s option, in case of Grade WR-Fe 500 material.

3 Alloy elements other than those listed in this table may be added as necessary.

4. Grade WR-Fe 490H is for Hot rolled steel sheet, strip and section with thickness 16mm or less and Grade WR-Fe 490C is for Cold rolled steel sheet and strip with thickness 0.6mm or over up to and incl. 2.3mm.

5 The upper limit of Mn may be 1.0% *Max* by agreement between the purchaser and the supplier.

(*Page* 9, *Table* 2) — Substitute the following for the existing table :

Table 2 Mechanical Properties

(*Clause* 8.3)

Grade	**Thickness (*t*)**	**Form**	**Tensile Strength** *Min* MPa	**Yield Strength** *Min* MPa	**Gauge Length L_0** mm	**Elongation** *Min* %
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
WR-Fe 480A	$t \leq 12$ mm	Plates, sheets, strips, sections, bars	480	345	$5.65\sqrt{S_o}$	21
	12 mm< $t \leq 25$ mm			325		
	25 mm < $t \leq 40$ mm			325		
WR-Fe 480B	$t \leq 12$ mm	Plates, sheets, strips, sections, bars	480	345	$5.65\sqrt{S_o}$	21
	$12 < t \leq 25$ mm			345		
	$25 < t \leq 40$ mm			345		
	$40 < t \leq 50$ mm			340		
WR-Fe 490H	$t \leq 6$ mm (*See* Note 1)	Sheets/strips	490 (*See* Note 1)	355	50	22
	$6 < t \leq 16$ mm			355	200	15
	$t \leq 16$ mm	Sections		355	200	15
WR-Fe 490C	$0.6 \leq t \leq 2.3$ mm	Sheets/strips	450	315	50	26 (*See* Note 2)
WR-Fe 500	$t \leq 12$ mm	Plates, sheets, strips, sections, bars	500	355	$5.65\sqrt{S_o}$	20

NOTES

1 For WR-Fe 490H steel sheet and strip of under 3 mm in thickness, the tensile strength of 510 N/mm^2 or over is applicable by agreement between the purchaser and the manufacturer.

2 Other values may also be applied subject to mutual agreement between manufacturer and purchaser.

(*Page* 10, *clause* **9.3**) — Substitute the following for the existing:

‘**9.3** Bend test shall be conducted in accordance with IS 1599 to meet the requirements mentioned below:

Grade	**Thickness (*t*)**	**Form**	**Bending Angle**	**Internal Bend Diameter** *Max* mm
WR-Fe 490H	$t \leq 6$mm	Sheets/strips	180^0	1 *t* (*See* Note)
	$6 < t \leq 16$mm			3 *t*
	$t \leq 16$mm	Sections		3 *t*
WR-Fe 480A WR-Fe 480B WR-Fe 500	All thickness	Plates, sheets, strips, sections, Bars (except round bars)	180^0	3 *t*
WR-Fe 480A WR-Fe 480B WR-Fe 500	Dia >25 mm	Round Bars	180^0	3 *t*
	Dia ≤ 25 mm			2 *t*

NOTE — An internal diameter of 2 *t* may be applicable by agreement between manufacturer and purchaser.’

(*Page* 10, *clause* **9.3.1**) **—** Substitute the following for the existing clause:

‘**9.3.1** For grade WR-Fe 490C, bend test is optional and shall be performed only when specified by the purchaser. For this the bend test piece shall be 15 mm to 50 mm in width, and have an appropriate length which is about twice the width. The test piece shall be bent manually with a vise through 180° along the length direction of the test piece as shown in Fig. 2 with an internal spacing of 1 *t*. If bending with a vise is not possible, other suitable means of bending may be used.

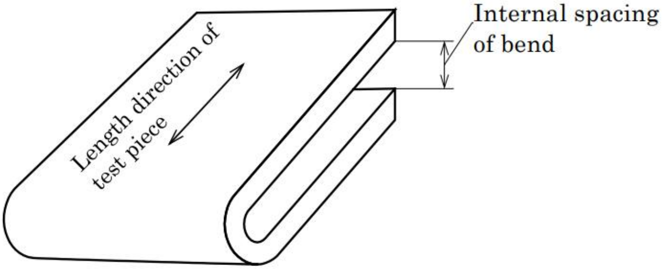

FIG. 2 DIRECTION OF BEND TEST'

(*Page* 10, *clause* **9.3.2**) — Delete

(*Page* 11, *Table* 4, *Note*, *Line* 2) — Insert the following at the end:

'For grade WR-Fe 490H the impact values and acceptance criteria be agreed between the contracting parties.'

(*Page* 13, *clause* **14.1**) — Substitute the following for the existing clause:

14.1 Unless otherwise agreed to between the purchaser and the manufacturer, the rolling and cutting tolerances for steel products conforming to this standard shall be those specified in IS 1852 for hot rolled steel sheet, strip and sections, IS 12779 for Parallel beam and column section and IS/ISO 16162 for cold rolled sheet and strip.

(*Page* 15, *clause* **18.3.1**) — Substitute the following for the existing clause:

'**18.3.1** The product (s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.'

(MTD 04)

Publication Unit, BIS, New Delhi, India